FIG. 1

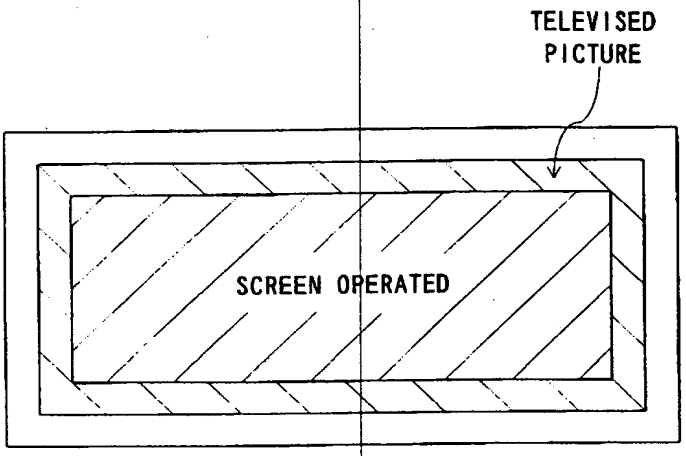

TELEVISED PICTURE
SCREEN OPERATED

FIG. 2

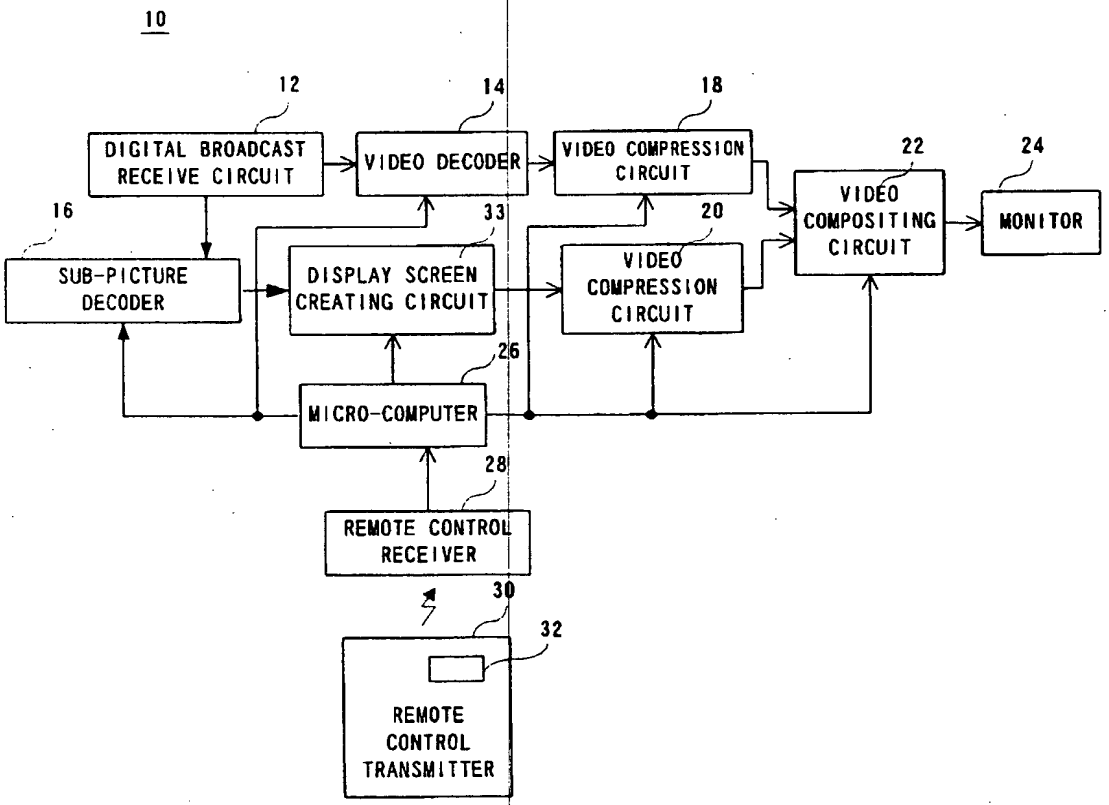

10
12
DIGITAL BROADCAST RECEIVE CIRCUIT
14
VIDEO DECODER
18
VIDEO COMPRESSION CIRCUIT
22
VIDEO COMPOSITING CIRCUIT
24
MONITOR
16
SUB-PICTURE DECODER
33
DISPLAY SCREEN CREATING CIRCUIT
20
VIDEO COMPRESSION CIRCUIT
26
MICRO-COMPUTER
28
REMOTE CONTROL RECEIVER
30
32
REMOTE CONTROL TRANSMITTER

FIG. 3

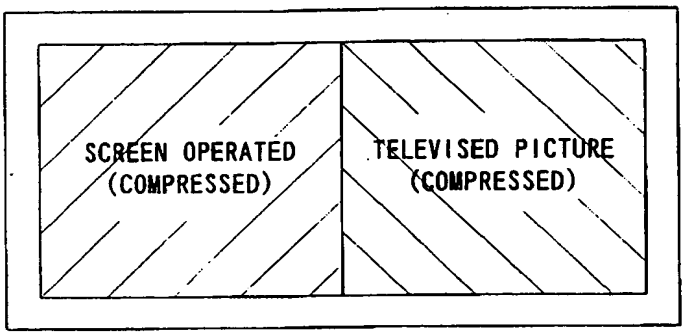

SCREEN OPERATED
(COMPRESSED)
TELEVISED PICTURE
(COMPRESSED)

FIG. 4

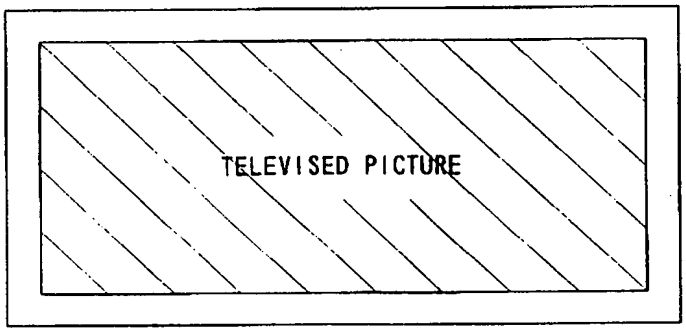

TELEVISED PICTURE

FIG. 5

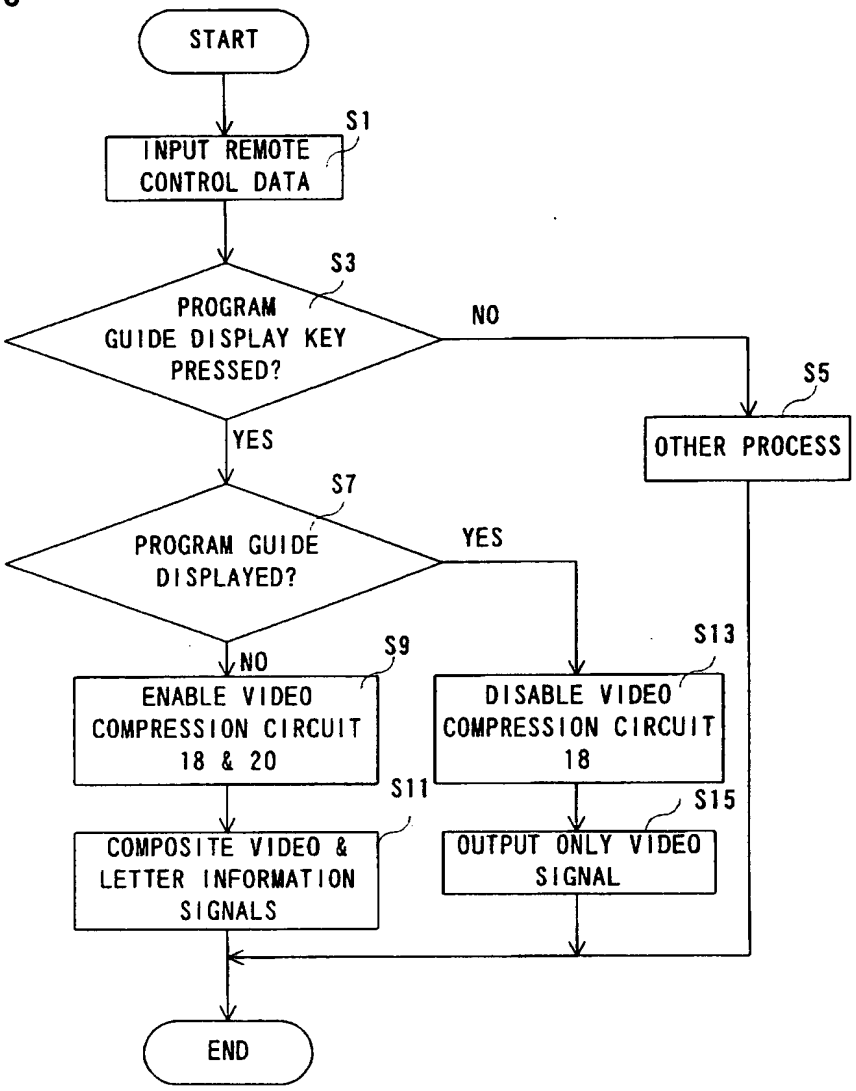

START
S1
INPUT REMOTE CONTROL DATA
S3
PROGRAM GUIDE DISPLAY KEY PRESSED?
NO
S5
OTHER PROCESS
YES
S7
PROGRAM GUIDE DISPLAYED?
YES
NO
S9
ENABLE VIDEO COMPRESSION CIRCUIT 18 & 20
S13
DISABLE VIDEO COMPRESSION CIRCUIT 18
S11
COMPOSITE VIDEO & LETTER INFORMATION SIGNALS
S15
OUTPUT ONLY VIDEO SIGNAL
END

FIG. 6

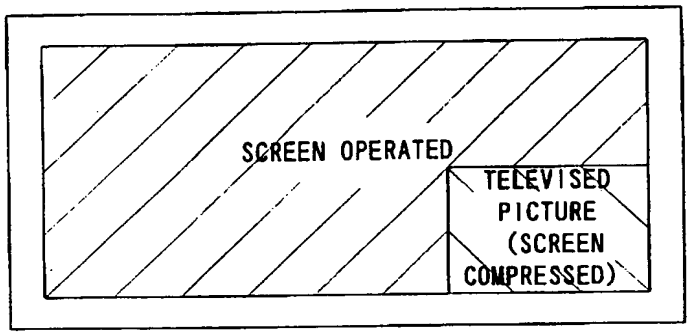


FIG. 7

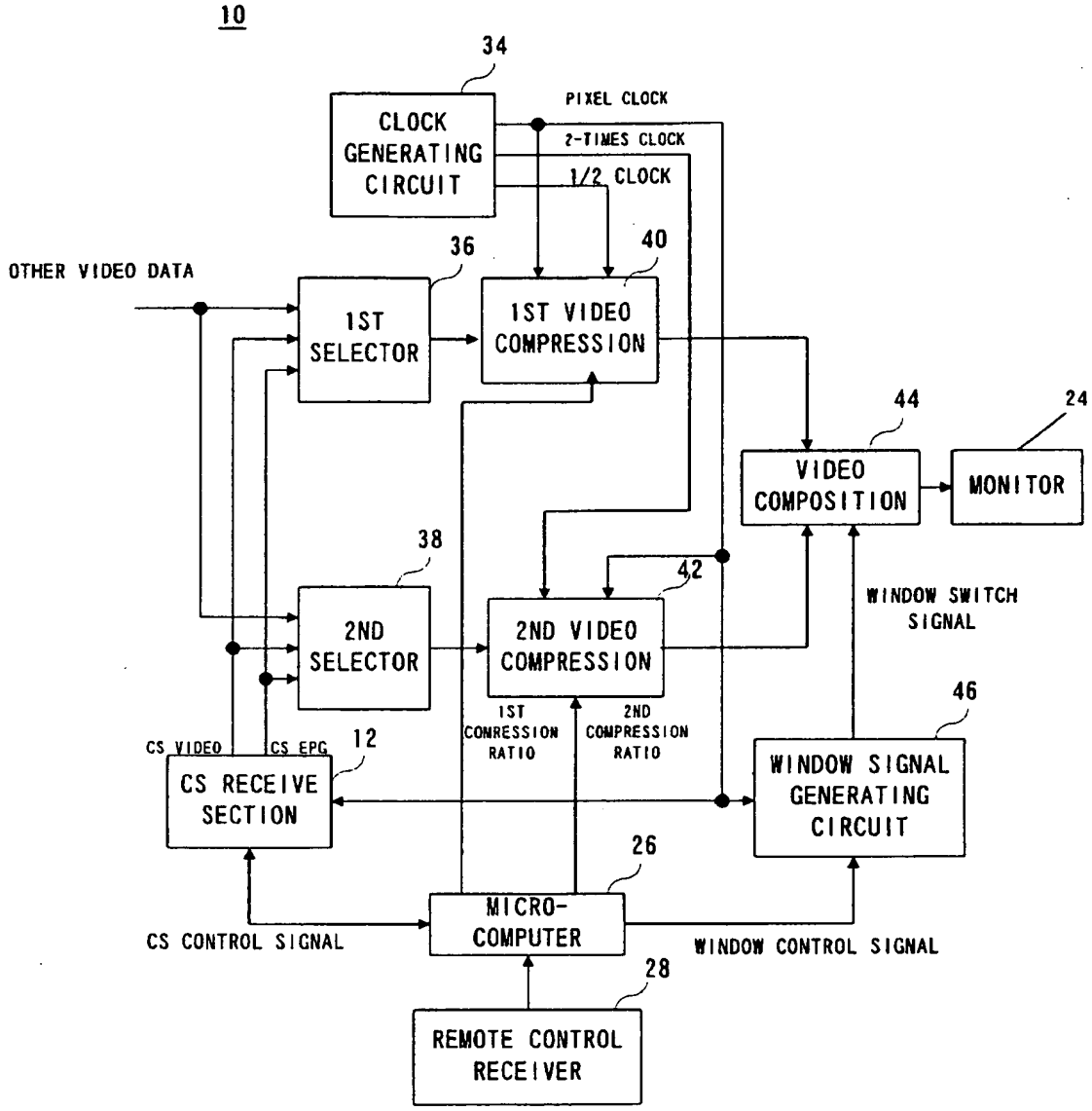

10
34
CLOCK GENERATING CIRCUIT
PIXEL CLOCK
2-TIMES CLOCK
1/2 CLOCK
OTHER VIDEO DATA
36
1ST SELECTOR
40
1ST VIDEO COMPRESSION
44
VIDEO COMPOSITION
24
MONITOR
38
2ND SELECTOR
42
2ND VIDEO COMPRESSION
WINDOW SWITCH SIGNAL
46
1ST COMPRESSION RATIO
2ND COMPRESSION RATIO
CS VIDEO
CS EPG
12
CS RECEIVE SECTION
WINDOW SIGNAL GENERATING CIRCUIT
26
MICRO-COMPUTER
CS CONTROL SIGNAL
WINDOW CONTROL SIGNAL
28
REMOTE CONTROL RECEIVER

FIG. 8

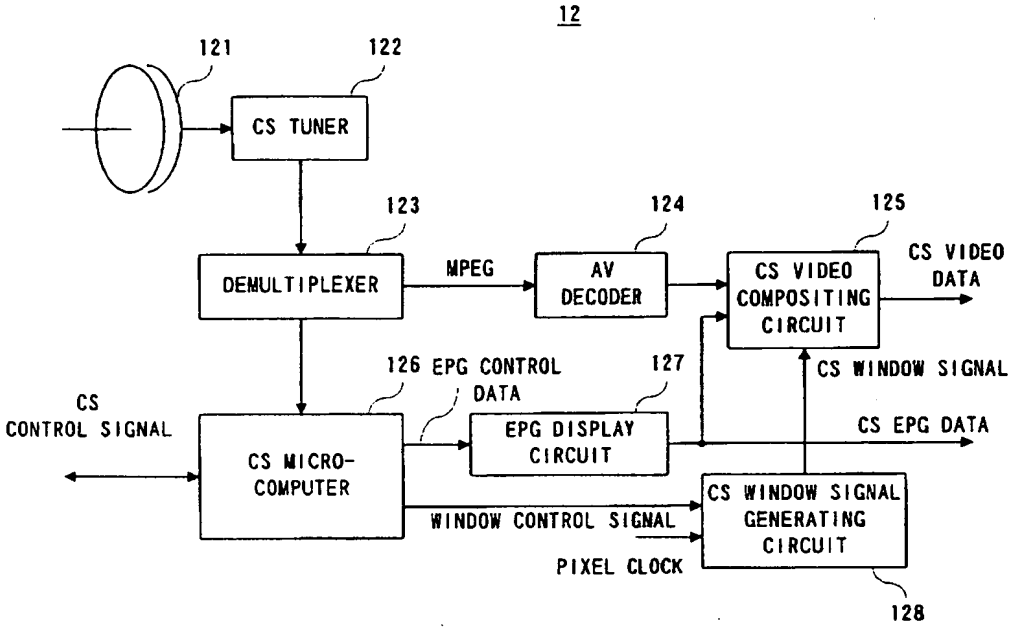

12
121
122
CS TUNER
123
124
125
DEMULTIPLEXER
MPEG
AV DECODER
CS VIDEO COMPOSITING CIRCUIT
CS VIDEO DATA
126 EPG CONTROL DATA
127
CS WINDOW SIGNAL
CS CONTROL SIGNAL
CS MICRO-COMPUTER
EPG DISPLAY CIRCUIT
CS EPG DATA
CS WINDOW SIGNAL GENERATING CIRCUIT
WINDOW CONTROL SIGNAL
PIXEL CLOCK
128

FIG. 9

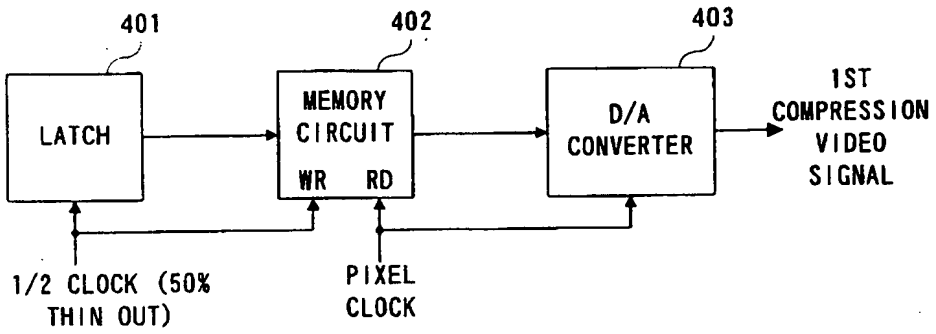
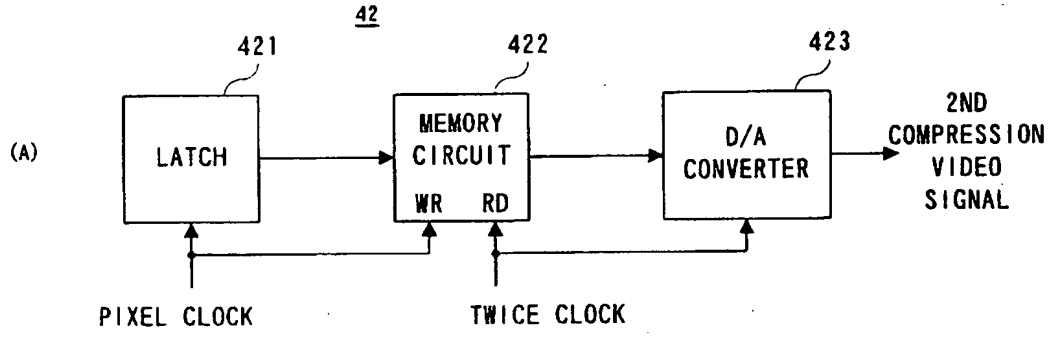

401
402
403
LATCH
MEMORY CIRCUIT
WR RD
D/A CONVERTER
1ST COMPRESSION VIDEO SIGNAL
1/2 CLOCK (50% THIN OUT)
PIXEL CLOCK

FIG. 10


(A)
42
421
422
423
LATCH
MEMORY CIRCUIT
WR RD
D/A CONVERTER
2ND COMPRESSION VIDEO SIGNAL
PIXEL CLOCK
TWICE CLOCK

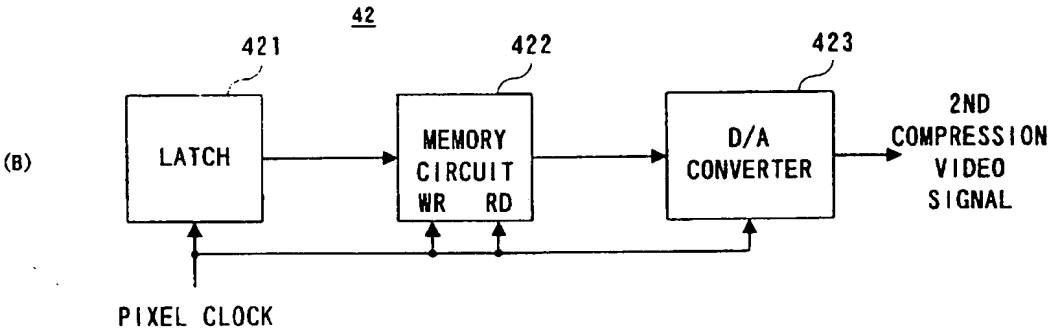

(B)
42
421
422
423
LATCH
MEMORY CIRCUIT
WR RD
D/A CONVERTER
2ND COMPRESSION VIDEO SIGNAL
PIXEL CLOCK

FIG. 11

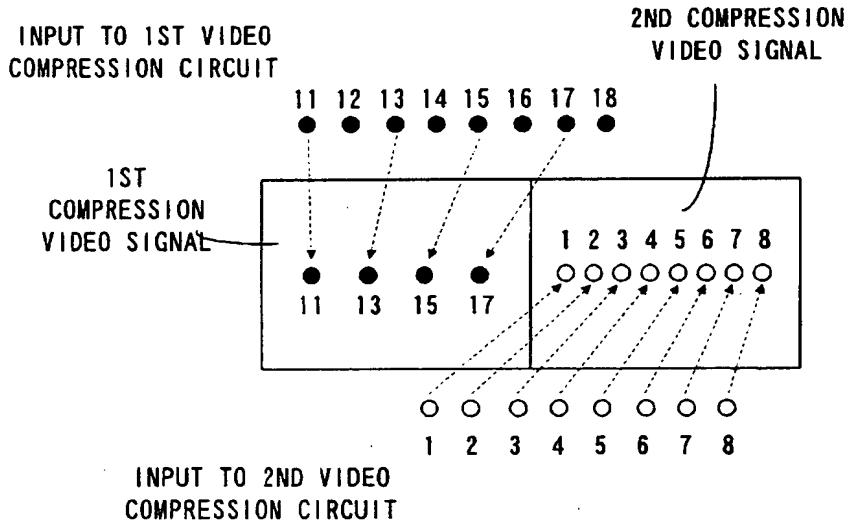

INPUT TO 1ST VIDEO
COMPRESSION CIRCUIT
2ND COMPRESSION
VIDEO SIGNAL
11 12 13 14 15 16 17 18
1ST
COMPRESSION
VIDEO SIGNAL
1 2 3 4 5 6 7 8
11 13 15 17
1 2 3 4 5 6 7 8
INPUT TO 2ND VIDEO
COMPRESSION CIRCUIT

FIG. 12

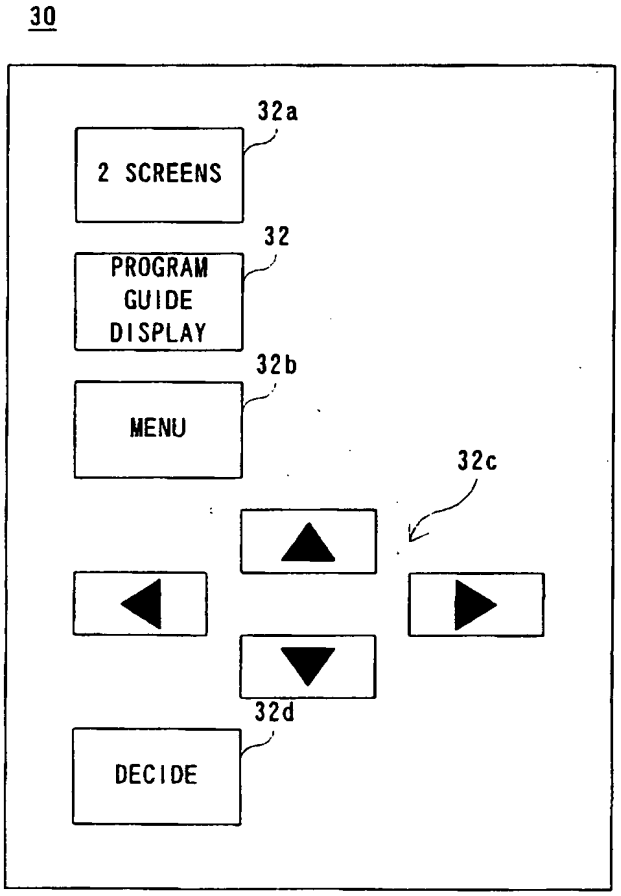

30
32a
2 SCREENS
32
PROGRAM GUIDE DISPLAY
32b
MENU
32c
32d
DECIDE

FIG. 13

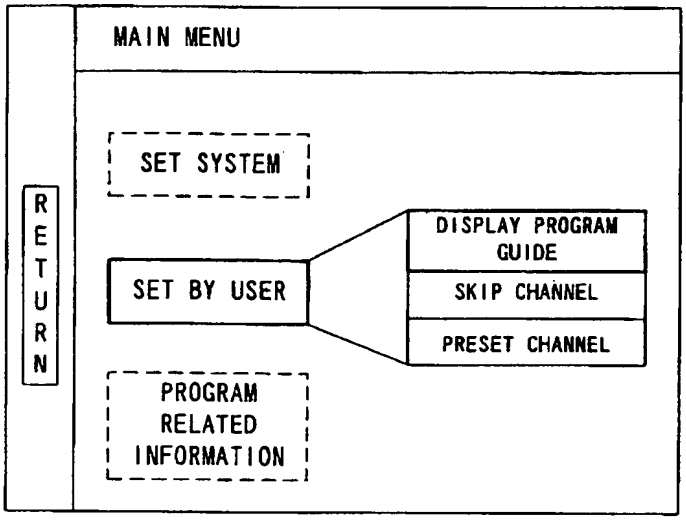

MAIN MENU
RETURN
SET SYSTEM
SET BY USER
DISPLAY PROGRAM GUIDE
SKIP CHANNEL
PRESET CHANNEL
PROGRAM RELATED INFORMATION

FIG. 14

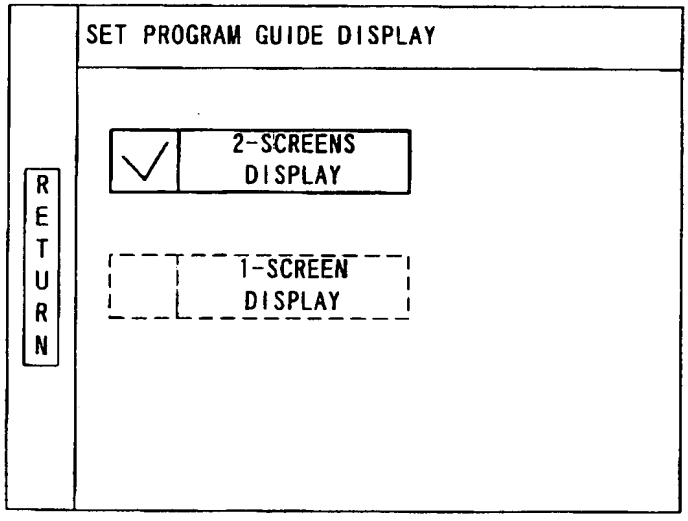

SET PROGRAM GUIDE DISPLAY
RETURN
2-SCREENS DISPLAY
1-SCREEN DISPLAY

FIG. 15

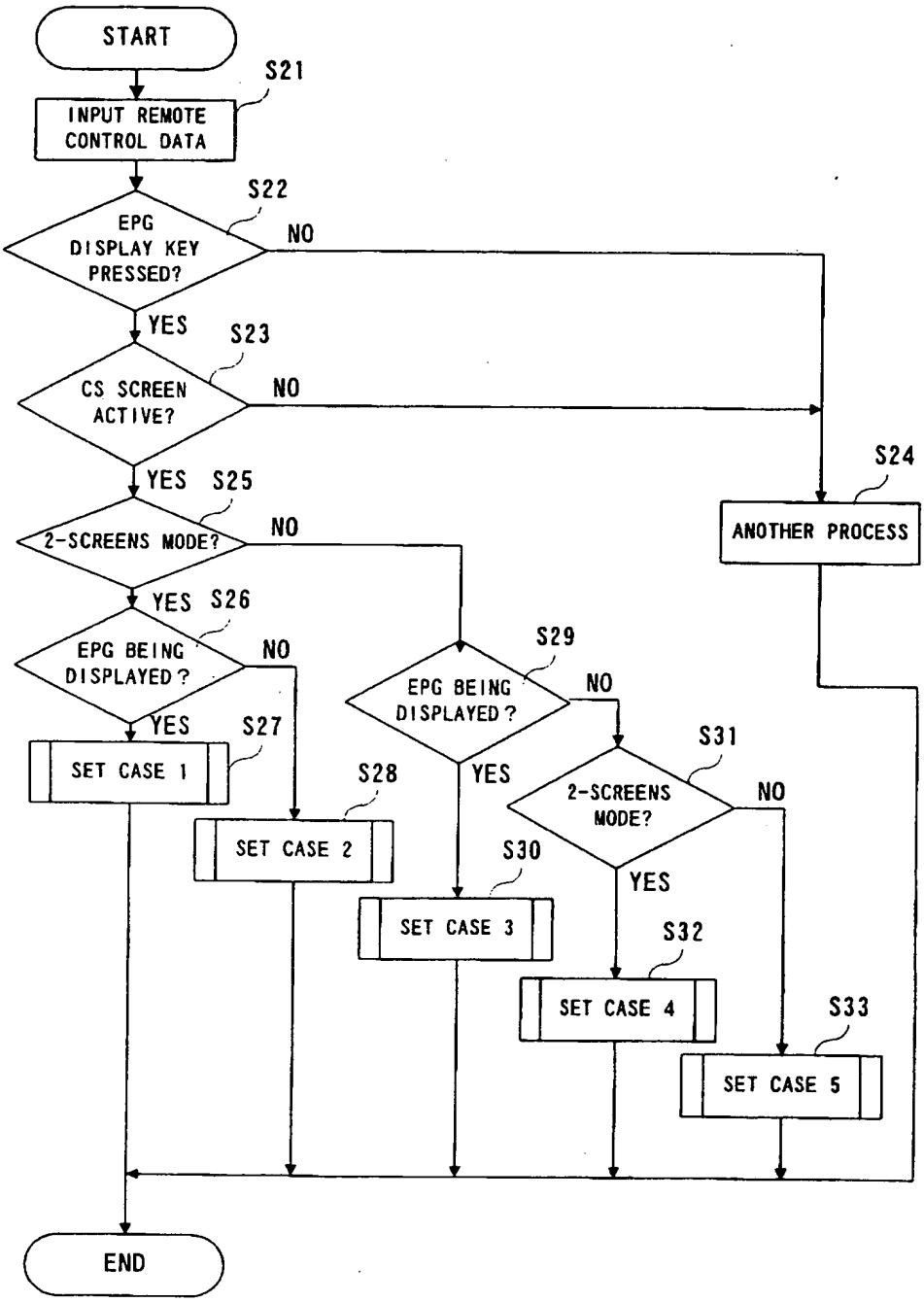

START
S21
INPUT REMOTE CONTROL DATA
S22
EPG DISPLAY KEY PRESSED?
NO
YES
S23
CS SCREEN ACTIVE?
NO
YES
S25
2-SCREENS MODE?
NO
YES
S26
EPG BEING DISPLAYED?
NO
YES
S27
SET CASE 1
S28
SET CASE 2
S29
EPG BEING DISPLAYED?
NO
YES
S30
SET CASE 3
S31
2-SCREENS MODE?
NO
YES
S32
SET CASE 4
S33
SET CASE 5
S24
ANOTHER PROCESS
END

FIG. 16

CASE \ CONTROL	1ST COMPRESSION INPUT	2ND COMPRESSION INPUT	1ST COMPRESSION RATIO	2ND COMPRESSION RATIO	VIDEO COMPOSITION SWITCH WINDOW	C S USUAL OUTPUT SWITCH WINDOW
CASE 1 CS VIDEO | OTHER VIDEO	.CS VIDEO	ANOTHER VIDEO	50 %	50 %	1ST COMPRESSION VIDEO | 2ND COMPRESSION VIDEO	BROADCAST VIDEO
CASE 2 CS VOIDEO (EPG) | OTHER VIDEO	CS VIDEO	ANOTHER VIDEO	50 %	50 %	1ST COMPRESSION VIDEO | 2ND COMPRESSION VIDEO	BROADCAST VIDEO (EPG)
CASE 3 CS VIDEO	Don't care	CS VIDEO	Don't care	100 %	2ND COMPRESSION VIDEO	BROADCAST VIDEO
CASE 4 EPG | CS VIDEO	CS EPG OUTPUT	CS VIDEO	50 %	50 %	2ND COMPRESSION VIDEO	BROADCAST VIDEO + EPG
CASE 5 CS VIDEO (EPG)	Don't care	CS VIDEO	Don't care	100 %	2ND COMPRESSION VIDEO	BROADCAST VIDEO (EPG)